UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,865	02/13/2002	Jochen Peters	DE010032	9419

24737	7590	03/11/2005	

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EXAMINER
SKED, MATTHEW J

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		10/075,865	PETERS, JOCHEN
		Examiner	Art Unit
		Matthew J Sked	2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>2</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**.   2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☒ Claim(s) *1-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☒ All   b)☐ Some * c)☐ None of:

　　　1.☒ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/13/02*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. On page 5, applicant mentions prior art that is not listed on the IDS.

Specification

2.   The disclosure is objected to because of the following informalities: the specification is missing the headings: "BACKGROUND OF THE INVENTION", "DESCRIPTION OF THE RELATED ART", "SUMMARY OF THE INVENTION", "BRIEF DESCRIPTION OF THE DRAWINGS", and "DETAILED DESCRIPTION".

3.   The subscripts for the characters of the equations throughout the application are not consistently treated as subscripts. For example on page 5, line 3, "βi" should be changed to -- β_i -- and on line 4 "$\alpha = \beta 0$" should be changed to -- $\alpha = \beta_0$ --. Similar changes should occur throughout the specification.

4.   On page 3, line 28 and page 4, lines 11 and 14, the specification refers to particular claim numbers, which is not acceptable to the Office.

5.   On page 8, several numerical values have commas where decimal points should

be, for example, on line 13 "= 4 - 0,1 = 3,9" should be changed to --= 4 – 0.1 = 3.9--.

Appropriate correction is required.

Claim Objections

6.   Claims 1-15 are objected to because of the following informalities: The

subscripts for the characters of the equations are not consistently treated as subscripts.

For example in the first claim " $Ai(n)$ " should be changed to -- $A_{i(n)}$ --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter, which the applicant regards as his invention.

8.   Where applicant acts as his or her own lexicographer to specifically define a term

of a claim contrary to its ordinary meaning, the written description must clearly redefine

the claim term and set forth the uncommon definition so as to put one reasonably skilled

in the art on notice that the applicant intended to so redefine that claim term. *Process*

Control Corp. v. HydReclaim Corp., 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed.

Cir. 1999). In claims 1-15, the claims use the term "orthogonalized" or refer to specific

values as "orthogonal". According to the specification, this intends for the iteration .

values of free parameters to be calculated using a linear combination of desired

boundary values of different sets of attributes where one set of the desired boundary

values of attributes has a larger range. However, the accepted meaning for "orthogonal" refers to vectors that are perpendicular and as such their dot products would be equal to zero. The values in the claims referred to as "orthogonal," however, are not vectors and therefore cannot be described as orthogonal. The specification fails to point out how these scalar values exhibit the qualities of orthogonality.

Allowable Subject Matter

9.   Claims 1-15 are allowed.

10.   The following is a statement of reasons for the indication of allowable subject matter: Claim 1 recites the combination of calculating iteration values for free parameters in the maximum-entropy speech model as a function of the previous calculated iteration value and a specialized boundary value. This boundary value is calculated as a linear combination of a desired boundary value for a specific attribute and another desired boundary value for a group of attributes that have a larger range than the first attribute.

11.   Berger et al. ("The Improved Iterative Scaling Algorithm: A Gentle Introduction") teaches a method for calculating iteration values for free parameters in the maximum entropy speech model as a function of the previous calculated iteration value and a boundary value (IIS Algorithm, page 4). The boundary value, however, is only calculated over one range of attributes (equations 6 and 7, page 3).

12.   Simons et al. ("Distant Bigram Language Modeling Using Maximum Entropy") teaches a method for calculating iteration values for free parameters as a function of the

previous iteration value and a boundary value calculated over one range of attributes (auxiliary function, page 787, 1st col., last paragraph to page 788, col. 1, 2nd paragraph).

13.   None of the prior art on record teaches or suggests calculating the boundary value, used in the calculation of free parameters, from two desired boundary values calculated over attributes of varying ranges. Therefore, it would not have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Berger and Simons to arrive at the present invention.

14.   Claims 2-9 are allowable because they further limit the claim in which they refer.

Conclusion

15.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. ("Efficient Sampling and Feature Selection in Whole Sentence Maximum Entropy Language Models"), Beyerlein ("Discriminative Model Combination"), and Berger et al. (U.S. Pat. 6,304,841) teach alternative methods for calculating free parameters for a maximum entropy speech model.

16.   This application is in condition for allowance, except for informalities recited above.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.
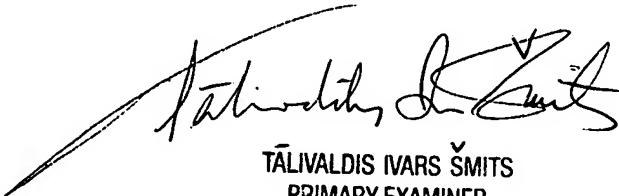
A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (703) 305-8663. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Smits can be reached on (703) 306-3011. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MS
03/02/05

TALIVALDIS IVARS SMITS
PRIMARY EXAMINER